

REMARKS

In the first Office Action of March 17, 2006, claims 1-6, 8-13, and 15-20 were rejected under 35 U.S.C. 103(a) as unpatentable over Broberg Patent Application Publication No. 2004/0128641 in view of Atsumi U.S. Patent No. 5,594,639. Claims 7, 14 and 21 were rejected under 35 U.S.C. 103(a) as unpatentable over these references in further view of pages 354-358 of Sedra/Smith, Microelectronics Circuits (4th ed. 1998). Claims 22-24 were withdrawn as directed to a non-elected invention.

The election with traverse of claims 1-21 for further prosecution is confirmed.

The present invention is directed to a method and apparatus for manufacturing integrated circuits that meet customer specific requirements using multiple subcontractors in remote locations. In accordance with one embodiment of the invention, customer special requirements received via the Internet are used to update a customer rule set database and the rule set is used to select partially-processed wafers identified in a database. Release requirements are validated against assembly capabilities of the contractors and electronic die release orders are issued for release of the selected wafers from a die bank to at least one of the subcontractors for further processing.

In contrast, the primary reference, Broberg, describes a process for the design, not the manufacture, of integrated circuits. This is abundantly clear from the title of Broberg's application, from the preamble to many of his claims and from the description of his invention. While Broberg has a superficial similarity to applicants' invention in that it is responsive to customer requirements (e.g., boxes 520 of Fig. 5 and paragraph 0046), Broberg deals with these requirements at the design stage with the use of various generation tools 510. Further description of the generation tools is found in Fig. 7 and paragraphs 0054 to 0060. The output of the generation tool is a series of design views 750 in a design language such as Verilog or VHDL (paragraph 0057, line 6).

In applicants' invention customer specific requirements are used to select semiconductor wafers that have already been designed and partially-processed and the selected wafers are then forwarded on to a subcontractor for further processing.

To emphasize the differences between applicants' invention and Broberg, independent claims 1, 8 and 15 have been amended to emphasize that partially-processed wafers are matched with customer requirements, to describe the assembly capabilities database as storing the

capabilities of each subcontractor, and to more fully specify the function of the electronic die release order as providing for release of selected wafers to a subcontractor for further processing.

As amended, claim 1 defines over Broberg at least in specifying the steps of selecting partially-processed wafers identified in a die bank database, validating release requirements against a database of subcontractor capabilities and issuing orders for release of selected wafers to subcontractors for further processing. None of these steps is disclosed or suggested in Broberg.

Broberg's resource database 734 does not constitute or suggest applicants' die bank database. From the description in paragraph 0055 at the bottom of the first column and top of the second column, it appears that resource database 734 contains a complete view of generated elements for use in optimization passes. The generated elements are the components of the integrated circuit that is being designed by the generation tool of Fig. 7. Thus, the resource database is not a die bank but a collection of circuit designs and does not store information about individual wafers as claimed by applicants.

Further, Broberg's resource database 734 does not suggest applicants' claimed step of selecting partially-processed wafers from the die bank database in accordance with a customer rule set database.

The Examiner concedes that Broberg does not teach the claimed elements of validating special release requirements for selected dies or issuing electronic die release orders but maintains that Atsumi makes up for those deficiencies. Applicants respectfully disagree. Atsumi merely describes an order processing module that breaks down orders into component parts. He makes no mention of processing electronic components of any sort and no mention of further processing of semiconductor wafers. In particular, he does not suggest applicants' invention in which partially processed wafers are selected from a die bank in accordance with customer specifications and then released for further processing in accordance with the capabilities of available subcontractors.

Nor is there any suggestion in the Broberg and Atsumi references to combine these references in a way that would suggest applicants' invention. Broberg relates to the design of an integrated circuit, not manufacture or processing of orders. Atsumi relates to processing of orders, not design of products. Contrary to the Examiner's assertion, Broberg's object is not to provide a general-purpose order processing module but rather to design an integrated circuit and

Atsumi has nothing to do with design. Thus, there is no incentive to combine these references.

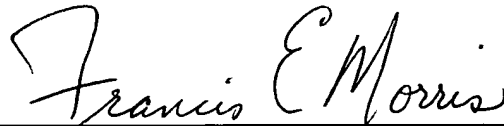
For the foregoing reasons, it is respectfully submitted that claim 1 is patentable over the references applied. Independent claims 8 and 15 are believed patentable for the same reasons claim 1 is patentable. Dependent claims 2-7, 9-14 and 16-21 are believed patentable for the same reasons the independent claims are patentable. In addition, several of the dependent claims are believed patentable because they specify additional details of the wafer selection process and wafer manufacturing process, neither of which are addressed in the references.

Aside from the fee for an extension of time, no additional fee is believed to be due for filing this response. However, if a fee is due, please charge such fee to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310.

If the Examiner believes a telephone interview would expedite prosecution of this application, she/he is invited to call applicant's attorney at the number given below.

Respectfully submitted,

Date: August 17, 2006

A handwritten signature in dark ink, reading "Francis E. Morris". The signature is written in a cursive, flowing style. The first name "Francis" is written with a large, stylized 'F'. The middle initial "E" is small and positioned between the first and last names. The last name "Morris" is written with a large, stylized 'M' and a trailing flourish.

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